*FINAL*

**ECI PROJECT NO. EPA 03123.08**
**TDD 02-04-04-001**

# CLEAN AIR ACT SECTION 112(r) INSPECTION REPORT

## *Wegmans Food Markets, Inc.*
## *Frozen Foods Facility*
## *&*
## *Fresh Foods Facility*
### *Rochester, NY*

**NOTE:**

Wegmans Foods Markets, Inc. owns/operates a large food distribution center on Wegmans Market Street, Rochester, NY. In June 1999 (due date for RMP registration), the facility operated two separate (i.e., not connected and not located in close proximity) ammonia refrigeration systems. The larger system, known as the Frozen Food Facility, exceeded the 10,000-lbs. threshold for anhydrous ammonia. The smaller system, known as the Fresh Foods Facility, contained less than the 10,000-lbs. threshold (estimated at 9,800-lbs.).

Therefore, on June 18, 1999, Wegmans submitted an RMP registration for the Frozen Foods Facility. At that time, no registration was required for the Fresh Foods Facility.

In June 2001, an increase in refrigeration capacity at the Fresh Foods Facility required the addition of anhydrous ammonia to the system, increasing the total inventory in the Fresh Foods Facility to above the 10,000-lbs. RMP threshold. Subsequently, Wegmans filed a separate RMP registration for the Fresh Foods Facility on June 26, 2001.

Both registrations were updated and re-submitted on May 3, 2004. Since the EPA did not have a copy of the May 3 submission at the time of this inspection, the inspection was based on the original submissions.

While the Frozen Foods Facility lists an address of 500 Wegmans Market Street and the Fresh Foods Facility lists an address of 300 Market Street, they are located in the same large complex and under the management of the same Wegmans' employees. See Attachment 1 for a site map.

This RMP Summary Report includes findings for the RMP inspection of both registered facilities.

## GENERAL INFORMATION

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| **Stationary Source** | Wegmans Food Markets, Inc. – Frozen Foods Facility & Fresh Foods Facility |
| **Date of Inspection** | May 10, 2004 |
| **USEPA Inspection** | Dwayne Harrington, USEPA – Region II |
| **Contract Auditor** | Neil Mulvey, Environmental Compliance Inc. |
| **Description of Activities** | • Opening meeting with facility representative.<br>• Program audit.<br>• Closing meeting with facility representatives.<br>Program audit consisted of the following activities:<br>1. Document review.<br>2. Field verification.<br>3. Personnel interviews. |

## STATIONARY SOURCE INFORMATION

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| **EPA Facility ID #** | Frozen Foods Facility – 1000 0009 6264<br>Fresh Foods Facility – 1000 0017 0070 |
| **Date of Submission** | Frozen Foods Facility – June 18, 1999<br>Anniversary Date – June 18, 2004<br>Fresh Foods Facility – June 26, 2001<br>Anniversary Date – June 26, 2006 |
| **Facility Location** | <u>Frozen Foods Facility</u><br>500 Wegmans Market St.<br>Rochester, NY 14624<br>Monroe County<br><br>Tel. (585) 429-3289<br><br><u>Fresh Foods Facility</u><br>300 Market Street<br>Rochester, NY 14024<br>Monroe County |
| **Number of Employees** | *RMP*Submit* states 52 for Frozen Foods Facility & 56 for Fresh Foods Facility. |

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| **Description of Surrounding Area** | Commercial / suburban |
| **Participants** | The following individuals participated in this inspection:<br><br>USEPA<br>Dwayne Harrington – USEPA, Region II, Edison, NJ<br>Neil Mulvey – Environmental Compliance, Inc. (Contractor to USEPA)<br><br>The following employees of Wegmans Food Markets, Inc. participated in this inspection:<br><br>Harry Hudson – Lead Refrigeration Technician<br>David Vitt* – Safety Engineer (Corporate)<br><br>* Lead Participant |

# REGISTRATION INFORMATION

## Frozen Foods Facility

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|---|---|
| **Process ID #** | 9103 (Ammonia Refrigeration) |
| **Program Level (as reported in RMP)** | Program 3 |
| **Process Chemicals** | Registered with 15,010-lbs. of anhydrous ammonia. Ammonia used as a refrigerant in an industrial refrigeration system. |
| **NAICS Code** | 49312 (Refrigerated Warehousing and Storage Facilities) |

## Fresh Foods Facility

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| **Process ID #** | 33558 (Ammonia Refrigeration) |
| **Program Level (as reported in RMP)** | Program 3 |
| **Process Chemicals** | Registered with 10,200-lbs. of anhydrous ammonia. Ammonia used as a refrigerant in an industrial refrigeration system. |
| **NAICS Code** | 49312 (Refrigerated Warehousing and Storage Facilities) |

# GENERAL COMMENTS

Wegmans Foods Markets, Inc. Rochester Facility is located in a commercial / suburban area surrounded by considerable open space.

Anhydrous ammonia is the only Risk Management Program (RMP) regulated material used above the threshold quantity. The facility uses anhydrous ammonia as a refrigerant in an industrial refrigeration system. Refrigeration is provided for cooling / freezing of food products for distribution.

The facility operates 24/7. Security is on-site 24/7. Wegmans operates an elaborate communications and security center for the Market Street complex. The Market Street communications center serves at the communications / security center for over 100 Wegmans retail stores as well as other Wegmans distribution centers. In addition to monitoring facility security, the communications center also tracks ammonia alarms. The communications center has direct lines to the local Fire Department personnel for emergency response.

Ammonia refrigeration personnel at the Market Street complex (i.e., Frozen and Fresh Foods Facilities) includes a lead ammonia refrigeration technician, a day-shift maintenance technician, and an off-shift maintenance technician (i.e., 5:30 PM – 1:30 AM). There is no refrigeration operator normally on-site during weekends and holidays. The lead refrigeration technician, Harry Hudson, is responsible for operation of the ammonia refrigeration systems.

The Frozen Foods Facility ammonia refrigeration system utilizes a two stage refrigeration system. The system consists of the following equipment:

- 3 low side screw compressors
- 3 intermediate stage screw compressors
- 4 high stage screw compressors
- 3 condensers located on roof above engine room
- 1 high pressure receiver (estimated 5,000-lbs. capacity)
- 3 low pressure receivers
- 18 evaporative condensers

All 10 compressors are located in the engine room. See Attachment 2 for a process flow diagram of the Frozen Foods Facility system.

The Fresh Foods Facility ammonia refrigeration system utilizes a two stage refrigeration system. The Fresh Foods Facility is independent and not tied-into the Frozen Foods Facility ammonia refrigeration equipment. The system consists of the following equipment:

- 4 compressors
- 3 condensers located on roof above engine room

- 1 high pressure receiver (estimated 10,000-lbs. capacity)
- 1 low pressure receiver
- 12 evaporative condensers

All compressors are located in the engine room. See Attachment 2 for a process flow diagram of the Fresh Foods Facility system.

The on-site inventory of anhydrous ammonia for both systems exceeds the 10,000-lb. threshold set for applicability to the RMP regulation as well as OSHA's Process Safety Management (PSM) standard. Since the two facilities are subject to OSHA's PSM rule, and since modeling identified a potential public receptor impact for the worst case scenario, the facilities are subject to the Program 3 requirements.

# RMP DOCUMENTATION

Wegmans' original process safety programs were developed pursuant to OSHA's Process Safety Management (PSM) regulations. Wegmans' PSM program was developed for both the Frozen Foods Facility and Fresh Foods Facility. During late CY-2003 and early CY-2004, Wegmans, with the assistance of an independent consultant, revised and updated may of the RMP program elements.

RMP documentation is included in a three-ring binder as well as separate file folders. Each RMP element includes a written procedure / policy and detailed documentation. The written RMP procedures apply to both the Frozen Foods Facility and the Fresh Foods Facility. Facility personnel demonstrated an understanding of the RMP requirements and of the content of their written program.

Comments regarding select RMP elements follow:

**Management System & Employee Participation**

The facility has a written management system description and employee participation program, dated January, 2004. The management system includes a written description of a responsible person for each RMP element.

**Process Safety Information (PSI)**

The facility has written PSI procedures dated December, 2003. PSI documentation includes:

- Detailed system description.
- BFDs for each system.
- Equipment specifications.
- Detailed set of electrical one-line diagrams; dated January 2004.
- MSDS.

- Good set of P&IDs for both systems. Frozen Foods Facility P&IDs dated January, 2001; Fresh Foods Facility, dated 7/13/95 which reflect the as-built system.
- Includes P&IDs for engine room equipment, piping system to air handling units, and isometrics for valving stations.
- Ammonia detector setpoints.
- PSV design data.
- Ventilation data.

There are no electrical area classification designations.

The facility has anhydrous ammonia inventory documentation specific to equipment. Ammonia is infrequently added to the system. There were no records of ammonia charges to the system within the past three years.

The registered ammonia inventory for the Frozen Foods Facility is 15,010-lbs., yet PSI documentation lists 17,610-lbs. Likewise, the Fresh Foods Facility lists a registration quantity of 10,200-lbs., yet PSI documentation lists 12,259-lbs.

**Process Hazard Analysis (PHA)**

Initial PHA, conducted in December, 1992, was complete and thorough. PHA revalidations were completed in June, 1999 and December, 2003. The PHA revalidations consist primarily of reviewing the status of previous PHA recommendations. PHA documentation includes description of causes, consequences, safeguards, and recommendations. Appropriate team members, led by a qualified outside consultant were used.

**Standard Operating Procedures (SOPs)**

The facility has a written policy regarding SOPs, 6/8/99. The facility has written SOPs for specific activities (see Attachment 3). Safe work practices include lock-out/tag-out, confined space entry, and opening equipment/lines.

**Training**

The facility has a written training procedure dated April, 2004. Records included documentation of SOP training for Harry Hudson (2/5/04), John Polland (2/5/04), and Todd Brown (2/5/04).

**Mechanical Integrity**

The facility has a written mechanical integrity procedure, dated 6/8/99. The facility has records of ammonia detector calibration checks. There is no equipment list, nor written inspection and test schedule in the mechanical integrity program.

## Management of Change (MOC) & Pre-Start-up Review (PSR)

The facility has a written MOC procedure, dated January, 2004 and a written PSR procedure dated April, 2004. There were no records of completed MOC or PSR reviews. The addition of a -20◦F ice house to the Frozen Foods Facility approximately four years ago was not addressed, as necessary, per MOC / PSR.

## Compliance Audits

The facility has a written audit procedure dated 6/8/99. The written audit procedure is generic and does not describe an approach for Wegmans' audits. An audit was conducted in October, 2003 by an outside consultant. The audit included team participation and consisted of a comprehensive review, including employee interviews. The audit documented 26 findings for corrective actions.

## Incident Investigation

The facility has a written incident investigation procedure dated 6/8/99. The facility reported that there have been no ammonia incidents requiring investigation.

## Hot Work Permit

The facility has a written hot work permit program dated 6/11/99. Completed hot work permits were available for review.

## Contractor Safety

The facility has a written contractor safety program dated 6/8/99. The written program is generic and not specific to Wegmans' practices. There were records of contractor sign-offs of basic safe work practices, but no record of contractor review / selection nor record of contractor orientation.

## Emergency Response

Reviewed by USEPA inspector. The facility has an up-to-date written emergency response program. The emergency response program includes procedures for employee and public notification. The emergency response plan has been coordinated with local emergency response agencies.

## FACILITY TOUR

During the tour of the Frozen Foods Facility and Fresh Foods Facility it was noted that the design and condition of the ammonia refrigeration system was commendable. Housekeeping was excellent and it appeared that the equipment was well maintained.

The ammonia refrigeration systems are well protected by fixed ammonia detectors. The Frozen Foods Facility has eight installed detectors at various locations throughout the facility. The detector in the engine room is set to alarm at 35 PPM. At 75 PPM, an alarm will sound at the local Fire Department. Additionally, emergency ventilation fans are activated on ammonia alarms. Seven other detectors are located throughout the facility, which are set at 100 and 300 PPM alarms. All ammonia detectors are monitored 24/7 by the on-site security office. Refrigeration operators are on-call to respond if necessary. A similar ammonia detection protection system is installed at the Fresh Foods Facility.

Reference the following photographs taken during the facility tour:

WFM-1 Frozen Foods Facility – High Pressure Receiver (HPR); 4500-lbs.
WFM-2 Frozen Foods Facility – Oil pot beneath high stage low pressure accumulator (2100-lbs.); note spring loaded valve, preceded with manual valve and pressure indicator; end cap on oil drain discharge
WFM-3 Close-up of WFM-2
WFM-4 Frozen Foods Facility – ammonia detector located on wall approximately 15-ft. from floor in engine room
WFM-5 Frozen Foods Facility – High stage Frick screw compressor; 437 HP
WFM-6 Frozen Foods Facility – Air handling unit (AHU) in penthouse above 20 deg.F cooler
WFM-7 Frozen Foods Facility – ammonia detector in penthouse shown in WFM-6
WFM-8 Frozen Foods Facility – 20 deg.F penthouse view from outside
WFM-9 Fresh Foods Facility – High stage Frick screw compressors in engine room
WFM-10 Fresh Foods Facility – HPR; 2667-lbs. ammonia normal; capacity is 10,000-lbs.
WFM-11 Fresh Foods Facility – View of AHU supply to cooled space

One item noted during the facility tour includes:

- The fixed ammonia detectors in the Fresh Foods Facility engine room is positioned only approximately 6-ft. from the floor (reference the following photographs). Anhydrous ammonia vapors are lighter than air, meaning that vapors from an anhydrous ammonia release will rise to ceiling height in an enclosed space. **The facility should check with the equipment vendor and verify the appropriate height to mount the ammonia detectors in the Fresh Foods Facility engine room.**
  - WFM-12 Fresh Foods Facility – Ammonia detector located approximately 6-ft. From floor in engine room
  - WFM-13 Fresh Foods Facility – bottom of low pressure receiver; note ammonia detector to left; same detector as shown in photograph WFM-12

# FINDINGS/RECOMMENDATIONS

- PSI does not include electrical area classification designations. **The facility should compile information on electrical area classification, as required by §68.65(d)(1)(iii).**

- The registered ammonia inventory for the Frozen Foods Facility is 15,010-lbs., yet PSI documentation lists 17,610-lbs. Likewise, the Fresh Foods Facility lists a registration quantity of 10,200-lbs., yet PSI documentation lists 12,259-lbs. **The facility should update the RMP registration for the two facilities to reflect the correct maximum inventory of anhydrous ammonia.**

- Initial process hazard analysis (PHA) and PHA revalidation studies were completed. **Since the two PHA revalidation studies consist primarily of a review of the previous PHA study recommendations, a complete PHA revalidation is recommended for the next scheduled PHA revalidation.**

- The facility has written SOPs for the ammonia refrigeration equipment. **However, consistent with industry practice, written procedures should be developed for oil draining in the Frozen Foods Facility engine room and for emergency shutdown of air handling units in the event of an ammonia leak. The SOPs should be dated so that annual certification can be confirmed. The SOPs should specifically describe use of PPE where necessary for designated activities such as oil draining.**

- The facility has a written mechanical integrity program, however the program does not include an equipment list, or written inspection and test schedules. **The facility should modify the mechanical integrity program to include a list of ammonia refrigeration equipment included in the program and equipment specific inspection and test schedules, as required by §68.73.**

- The facility has written MOC and PSR procedures. However, there were no MOC / PSR reviews for the addition of a -20◦F ice house to the Frozen Foods Facility approximately four years ago, as necessary. **The facility should review the requirements of MOC and PSR and ensure necessary training and understanding for proper MOC / PSR implementation.**

- The first RMP audit was conducted in October, 2003 by an outside consultant. The audit included team participation and consisted of a comprehensive review, including employee interviews. **The audit documented 26 findings for corrective actions. The facility should develop a tracking system to manage the resolution of audit findings.**

- The facility has a written contractor safety program. Records include contractor sign-offs of basic safe work practices, but no record of contractor review / selection nor record of contractor orientation. **The facility should modify the contractor safety program to include an evaluation of the contractor's safety performance when making initial contractor selection, per the requirements of §68.87(b)(1).**

# LIST OF ATTACHMENTS

1. Site Map, Wegmans Food Markets – Frozen and Refrigerated Foods Distribution Centers; Rochester, NY.

2. Refrigeration System Process Flow Diagram – Frozen Foods & Fresh Foods Distribution Center.

3. Standard Operating Procedures, Fresh Foods Warehouse & Frozen Food Warehouse.